

35. *PIRYGILUS PLEBEIUS* Cab.

Iris brown. This was the most common bird at Moreno. It resembles the European House-Sparrow in its habits. It builds its nest in crevices in the rocks, but also under the roof-tiles of houses and in bushes. The eggs are said by Mr. von Hofsten to be white, measuring 22 mm. in length by 15 mm. in breadth. Usually there are three or four in a nest. The food of the bird consists of seeds, buds, and caterpillars.

IV. BIRDS OF SAN LUIS, NEAR TARIJA, IN BOLIVIA.

The third Station of the Swedish Expedition was near Tarija, at a place named San Luis. In its surroundings it resembled the second as regards the natural conditions, but it was not so high above the sea as Moreno, and, although "puna" prevailed round Tarija as well, there was a richer vegetation, which made a change for the better. The bird-life was almost entirely different from that of Moreno, and decidedly richer.

The following birds were collected at the third Station and during excursions around the same.

1. *NOTHURA BOLIVIANA* Salvadori.

The specimen from San Luis which I refer to this species (iris brown) has no markings on the inner webs of the three outer primaries. Wing 125 mm., tarsus 29 mm. It was shot in January 1902, and eggs taken on January 16th probably belong to this species, as no other member of the family was procured. They were laid in a shallow nest lined with twigs, straws, and feathers of the bird. They were four in number and measured from 43 to 45 mm. in length to 32.5 mm. in thickness. They have the usual enamelled or china-like surface, and are in some lights greyish with a plum-coloured tinge, in others brownish with a tinge of chocolate.

2. *COLUMBULA PICUI* (Temm.).

One specimen, shot at San Luis, January 27th, 1902. Iris lilac.

+3. *ÆGIALITIS SEMIPALMATA* (Bp.).

San Luis, February 6th, 1902. Iris brown.

+4. *HETEROPYGIA MACULATA* (Vicill.).

San Luis, February 8th, 1902.

Zapatero, March 8th, 1902.

+5. *QUERQUEDULA VERSICOLOR* (Vicill.).

San Luis, March 4th, 1902.

6. *SPATULA PLATALEA* (Vicill.).

Iris reddish yellow (stated to be white in *Cat. Birds Brit. Mus. vol. xxvii. p. 317*).

This specimen is an adult shot at San Luis in April, 1902. A young bird shot at Abra Pampa on the "puna," is stated to have had brown eyes.

Pairs are usually found on the rivulets.

+7. *PHALACROCORAX VIGUA* (Vicill.).

Adult birds in full plumage were shot at San Luis, March 4th, 1902. An adult bird in transitory plumage was shot on January 17th.

8. *FALCO CASSINI* Sharpe.

Tolomosa, February 8th, 1902.

The bluish-ashy and black bars on the tail are distinct to the tip; otherwise the example agrees with the description in *Cat. Birds Brit. Mus. vol. i.* Wing 345 mm. Iris brown.

9. *TINNUNCULUS CINNAMOMIMUS* (Swains.).

Adult males from San Luis, January 26th, 1902. Three females from the same place, January 1902. Iris brown.

10. *POLYBORUS THARUS* (Molina).

This Carrion-Hawk was very common at San Luis, and appeared as soon as anything that could pass for catable was thrown out. Iris yellow (brown, according to *Cat. Birds Brit. Mus. vol. i.*).

11. *BOLBORHYNCHUS AYMARA* (d'Orb.).

Occurred at San Luis in large flocks, screaming loudly when flying round. Iris brown.

†12. *CERYLE AMAZONA* (Latham).

The only specimen observed was shot at San Luis on the way to the Chaco in March 1902. Iris brown.

13. *CERYLE AMERICANA* (Gm.).

San Luis, January 24th, 1902. Iris red-brown.

14. *CHLOROSTILBON AUREIVENTRIS* (d'Orb. et Lafr.).

San Luis, January 1902.

15. *GUIRA PIRIRIGUA* (Vieill.).

A specimen shot at San Luis, January 16th, 1902, had on the right side of the tail four white-tipped feathers, owing to the fact that a new feather had been fully developed before any of the old had been shed. Iris reddish yellow.

†16. *COCCYZUS AMERICANUS* (Linn.).

Shot at San Luis, February 8th, 1902. Iris yellowish brown, according to the label.

17. *PICOLAPTES ANGUSTIROSTRIS* (Vieill.).

San Luis, February 1902. Iris brown.

18. *SIPTORNIS STRIATICEPS* (d'Orb. et Lafr.).

Tolomosa, January 31st, 1902. Iris brown.

Cap decidedly striated, especially in front. Flanks and crissum washed with brownish (or greyish fulvous); three proximal secondaries with a longitudinal rufous stripe on the outer web. In coloration this bird approaches *Siptornis rufipennis* of Selater and Salvin, but the measurements are those of *S. striaticeps*, of which it is probably only a variety, though perhaps a connecting-link between the two forms.

19. *SIPTORNIS ORBIGNYI* (Reichenb.).

A specimen of this bird was shot at San Luis in February 1902.

This bird was seen and observed daily by Mr. von Hofsten and other members of the Expedition while it was building a very large nest of straws. A pair of *Saltator laticlavus* were also often seen near the place, and the *Saltator* was observed occasionally to enter the nest of the *Siptornis*. The two birds were, however, not on friendly terms, but often fought

with each other. Finally, the pair of *Saltator laticlavus* was shot on January 26th, 1902, and on February 6th the *Siptornis* met with the same fate, after which the nest was investigated more closely. Mr. von Hofsten then found only one "sitting-place" in the nest and in it three eggs of two different kinds lying together. One of these is white, measuring 23.5 mm. in length and 17.5 mm. in thickness. I presume that this egg belongs to the *Siptornis*. The two others are larger, thicker, and more rounded, measuring 24 mm. in length by 20 mm. in thickness. Their ground-colour is greenish white, spotted all over with irregular reddish-brown, or almost red, spots and with fainter bluish violet or bluish-grey blotches. I suppose that these beautiful eggs were deposited by the *Saltator*.

The question now arises, has *Saltator laticlavus* parasitic habits and had it in this case the intention of letting the *Siptornis* hatch its eggs and rear its young? I do not think so. If there had been only one *Saltator* egg in the nest this might have been probable, but I think that the *Saltator* wished to take the whole nest for its own purposes and had laid two eggs. When the *Saltators* were killed the pair of *Siptornis* regained the nest and began to lay eggs.

20. PHYTOTOMA ANGUSTIROSTRIS d'Orb. et Lafr.

A male specimen from San Luis on January 26th, 1902, and a female shot at the same place a day later. Both are said to have had the iris reddish yellow ("gialla," according to Salvadori, *l. c.*).

Especially in the mornings and evenings, single individuals of this species were seen sitting in the tree-tops making a creaking noise similar to that produced when a broken branch of a tree is moved by the wind.

21. CNIPOLEGUS ANTHRACINUS Heine.

Tolomosa, January 31st, 1902. Occurred in flocks.

22. PYROCEPHALUS RUBINEUS (Bodd.).

This beautiful little bird lives in trees like a Flycatcher (*Muscicapa*). Tolomosa, January 1902.

23. TYRANNUS MELANCHOLICUS Vieillot.

San Luis, January 19th, 1902.

+24. ATTICORA CYANOLEUCA (Vieill.).

A young bird, shot January 27th, 1902, at San Luis.

25. PROGNE FURCATA Baird.

Iris dark brown. San Luis, February 6th, 1902. This Swallow flew very high and with great speed.

26. MIMUS DORSALIS (d'Orb. et Lafr.).

Iris brown, according to the label, but stated to be "pale greenish" in Cat. Birds Brit. Mus. "according to d'Orbiguy."

The only specimen observed was shot at San Luis, January 29th, 1902.

27. TURDUS FUSCATUS d'Orb. et Lafr.

San Luis, February 1902. Iris brown.

28. EMBERNAGRA OLIVASCENS (d'Orb. et Lafr.).

A male specimen from San Luis, January 23rd, 1902. Iris brown, bill orange.

29. SYCALIS FLAVEOLA (Linn.).

A typical male specimen was shot at San Luis in January 1902. Mr. von Hofsten has labelled a bird shot at the same place a little later (February 5th) as the female of the same species, but it has considerably less yellow in its plumage above than is stated in Cat. Birds Brit. Mus. vol. xii. Very similar to the latter are two young birds, not in full plumage, shot at Tatarenda in April 1902.

Mr. von Hofsten informs me that *Sycalis flaveola* was the most common bird at San Luis and Tarija. It places its nest under the roof-tiles, in stone walls, and in similar places. The eggs vary from 20 to 22 mm. in length and their breadth is about 15 mm. Their ground-colour is whitish, sometimes with a slight tinge of greenish. They are thickly and irregularly spotted with brown, sometimes blackish, sometimes reddish. The spots are occasionally confluent and make large blotches near the larger end, where they are more numerous. They often form a thick broad ring of dark colour. Usually the whitish ground-

colour is predominant, but in some specimens the brown spots almost cover the egg, which in its general appearance has a certain resemblance to that of *Fringilla montifringilla*.

30. *SALTATOR LATICLAVIUS* Sclater & Salvin.

Male and female specimens from San Luis, shot January 26th, 1902. Iris brown. The specimens in question in some respects approach *S. aurantirostris*, for the measurements are rather smaller than those recorded in Cat. Birds Brit. Mus. for *S. laticlavius*, but at the same time they are larger than those of the former, namely, wing 96, tail 98 mm. The white marks on the outer rectrices are very clear in both sexes. The male specimen has a well-developed claw at the bend of the wing, which in the female is only represented by a horny wart. As I have only one example to hand I cannot decide whether this peculiar claw is a normal occurrence in the males of the species or not, but the matter is worth further investigation.

Concerning the nesting of this bird, see above, p. 454, under *Siptornis orbigny*.

31. *MOLOTHRUS BONARIENSIS* (Gmelin).

An adult male from San Luis, January 1902. A young bird in moult shot at the same place, February 23rd, 1902, had partly assumed the shining black plumage of the adult.

This bird often accompanied the cattle and was seen sitting on their backs, picking ticks and parasites from them. The crops of our specimens were filled with ticks, so that these seem to be the principal food.

32. *MOLOTHRUS BADIUS* (Vieillot).

A specimen from San Luis, shot January 25th, 1902. Iris brown.

This species also accompanies the cattle in large flocks.

In addition to the birds already enumerated, the following were observed at Tarija :—

<i>Fulica gigantea.</i>	<i>Tanagra bonariensis.</i>
<i>Phœnicopterus, sp. inc.</i>	<i>Zonotrichia pileata sive canicapilla.</i>
<i>Gyparchus papa.</i>	
<i>Cathartes atratus.</i>	